IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant(s):	Rajendra R. Damle; Young Lee; William C. Szeto; Robert K. Butler; H. Michael Zadikian
Assignee:	Ceterus Networks, Inc.

Title:	TRANSPORT OF HIGH-BANDWIDTH DATASTREAMS OVER A NETWORK		
Application No.:	10/074,264	Filing Date:	February 12, 2002
Examiner:	Ashokkumar B. Patel	Group Art Unit:	2456
Docket No.:	CET0006US	Confirmation No.:	5023

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REPLY BRIEF UNDER 37 CFR § 41.41

Dear Sir:

This Reply Brief is submitted in response to the Examiner's Answer dated January 14, 2009.

An appeal fee having been paid, Appellants do not believe any further fees are required to be paid with this reply. If, however, any fees are required with the submission of this Reply Brief, please charge deposit account No. 502306 for any additional sums which may be required as part of this Reply.

REAL PARTY IN INTEREST

The real party in interest on this Appeal is the assignee, Ceterus Networks, Inc. as named in the caption above.

RELATED APPEALS AND INTERFERENCES

There are no appeals or interferences related to this application.

STATUS OF CLAIMS

Claims 1-11, 13-22 and 24-37 are pending in the application.

Claims 1-11, 13-22 and 24-37 stand rejected.

Claims 12 and 23 are canceled.

Appellant appeals the rejection of Claims 1-11, 13-22 and 24-37.

STATUS OF AMENDMENTS

No amendments have been filed subsequent to the Final Rejection of April 11, 2008

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

I.   Rejection of Claims 1-11, 13-22 and 24-37 under 35 U.S.C. §103(a) as being unpatentable over United States Patent No. 5,680,400 to York (*York*) in view of United States Patent No. 5,680,400 to Smith *et al.* (*Smith*).

II.   Rejection of Claims 1, 13, 24 and 30 under 35 U.S.C. §102(e) as being anticipated by *Smith.*

ARGUMENT

I.   The Examiner's rejection of Claims 1-11, 13-22 and 24-37 under 35 U.S.C. §103(a) and of Claims 1, 13, 24 and 30 under 35 U.S.C. §102(e) as being anticipated by *Smith* are based on an impermissible interpretation of the Claims, and should be overturned.

Claims 1-11, 13-22 and 24-37 stand rejected under 35 U.S.C. §103(a) as purportedly being unpatentable over U.S. Patent No. 5,680,400 issued to York ("*York*") in view of U.S. Patent No. 7,149,432 issued to Smith *et al.* ("*Smith*"). Claims 1, 13, 24 and 30 are rejected under 35 U.S.C. §102(e) as being anticipated by *Smith*. Appellants respectfully submit that these rejections are in clear error and should be overturned. Appellants have submitted in the Appeal Brief that neither the cited passages, nor, more broadly, the combination of *Smith* and *York*, teaches a payload data unit (PDU) containing both a source identifier **and** payload data. *Smith*, taken alone, is similarly bereft of such a teaching or suggestion.

Appellants claim "appending to each PDU a source identifier identifying the source of the input datastream." *Smith* teaches away from the individually source-identifiable atomic data unit (PDU) claimed by Appellants. Instead, *Smith* purports to teach a source identifier injected at a low frequency interval into a substream of otherwise unidentifiable packets, wherein the atomic unit (*e.g.*, packet) does not carry any source identifier.

The Examiner's Answer attempts to buttress the rejection of the Final Office Action with an interpretation that reads the claimed distinctions between a substream, a

queue, and a PDU into nonexistence through a substitution of claim limitations. As will be appreciated, "All words in a claim must be considered in judging the patentability of that claim against the prior art." *See In re Wilson,* 424 F.2d, 1382, 165 USPQ 494, 496 (CCPA 1970); *cf. Freedman Seating v. American Seating Co.*, 420 F.3d 1350 (Fed. Cir. 2005) (one cannot construe equivalents to a limitation if doing so would entirely vitiate the limitation). By substituting one limitation for another, the Examiner's Answer has impermissibly failed to consider the words in the claim that draw distinctions between the various recited elements. Rather than treating the claimed PDU as the atomic unit of data, the Final Office Action treats the claimed substream as the atomic unit of data. The Examiner's Answer attempts to support this treatment by reading limitations related to the PDU into nonexistence.

In order to excuse the above substitution, the Examiner's Answer attempts a syllogism based on false premises. Both because the substitution unjustly eliminates elements recited in the claim and because the logic supporting the substitution is self-contradictory, the rejection is in error. In support of this rejection, the Examiner's Answer states:

> Following is how Examiner had discerned "a source identifier identifying the source of the input stream" and "the PDU".
>
> Appellant had identified "a source identifier identifying the source of the input stream" being the "Q_IDs" in response dated 01/10/2008 as well as the same is reiterated in this Appeal Brief, page 8.
>
> Based on the "a source identifier identifying the source of the input stream" being the "Q_IDs" in response dated 01/10/2008 and the claim language, Examiner had discerned the claim limitations as follows:
>
> Claim 1 recites:
>
> Decomposing an input datastream of a plurality of input datastreams into a plurality of substreams, wherein said decomposing comprises

placing a portion of the input datastream into one of a plurality of queues,

Forming the portion of the input datastream using one or more payload data units (PDUs) each comprising a predetermined amount of data,

forming each PDU by selecting the predetermined amount of data from the input datastream.

Thus, each "PDU" is the selected predetermined amount of data from the input datastream which forms "the portion of the input datastream" because claim itself recites that "forming the portion of the input datastream using one or more payload data units (PDUs) each comprising a predetermined amount of data."

Thus, "the portion of the input datastream", which is "PDU", is then "placed into one of a plurality of queues", (as claim recites "placing a portion of the input datastream into one of a plurality of queues.)

Thus, "placing a portion of the input datastream into one of a plurality of queues," is "decomposing".

Thus if_decomposing is "decomposing an input datastream of a plurality of input datastreams into a plurality of substreams wherein said decomposing comprises placing a portion of the input datastream into one of a plurality of queues", "then a plurality of queues" are a plurality of sub-streams."

And, as stated above, "a plurality of queues" which are "a plurality of sub-streams" are "formed" of "the portion of the input datastream," which is "PDU". **Therefore each substream is a PDU.**

See, Examiner's Answer, pp. 64-65. Appellants respectfully submit that the "discernment" allegedly offered above is both self-contradictory and contrary to the plain language of the claims. The logic of the Examiner's Answer in support of the rejection is built on a series of statements that both mischaracterize the claim and contradict each other.

In support of the rejection, the Examiner's Answer offers a first statement that "'the portion of the input datastream', which is 'PDU', is then 'placed into one of a plurality of queues'." The Examiner's Answer makes a second statement that "'a plurality of queues' which are 'a plurality of sub-streams' are 'formed' of 'the portion of the input datastream,' which is 'PDU'. **Therefore each substream is a PDU.**" By itself,

this second statement is merely a *non-sequitur.* Read in conjunction with the first statement, Appellants respectfully submit that the second statement makes no sense. A substream, which the Examiner's Answer characterizes as being a recited PDU, cannot also be a queue, when the Examiner's Answer states that substreams and queues are formed from PDUs. The Examiner's Answer thus argues that a thing is formed from itself, thereby reading out of existence the "forming" limitation.

Thus, in support of the rejection's mapping of elements, the Examiner's Answer requires acceptance of the notion that a PDU is placed in a substream (because the Examiner's Answer states that a substream is a queue), and ALSO that a PDU is a substream. How can a thing be placed in itself? Reading the claim in light of this tortured assertion of identity between a substream, a queue, and PDU, and replacing each of the elements with the word, 'PDU', the Examiner's Answer would have the claim read as follows:

> A method for transporting information over a network comprising:
> decomposing an input datastream of a plurality of input datastreams into a
>   plurality of PDU, wherein
>   said decomposing comprises placing a PDU into one of a plurality of
>   PDU,
>   forming the PDU using one or more PDU each comprising a
>   predetermined amount of data,
>   forming each PDU by selecting the predetermined amount of data from
>   the input datastream,
>   appending to each PDU a source identifier identifying the source of the
>   input datastream, and
>   each PDU of the plurality of PDU corresponds to a corresponding channel
>   of a plurality of channels; and
> communicating said PDU between a first network element and a second network
>   element of said network by transporting each one of said PDU over the
>   corresponding channel, wherein
>   a transmission rate of said input datastream is greater than a maximum
>   transmission rate of any one of said channels, and

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> said communicating comprises forming a data frame comprising one or
> more PDUs and the appended source identifier for each PDU and
> transmitting the data frame over the corresponding channel.

The problems of the mapping advocated in the Examiner's Answer become self-evident in modified limitations such as, "said decomposing comprises placing a PDU into one of a plurality of PDU," and "forming the PDU using one or more PDU each comprising a predetermined amount of data."

The Examiner's Answer further advocates a reading that contradicts the plain text of the claims. The Examiner's Answer notes that "[t]hus, 'the portion of the input datastream', which is 'PDU'," while the claim language clearly recites "forming the portion of the input datastream using one or more payload data units (PDUs)." Thus, the Examiner's Answer advocates a claim interpretation that requires the claim's recitation of the formation of the portion of the datastream to be read as meaningless.

The Examiner's Answer also alleges that that "Appellant has completely ignored the teachings of York," but does not develop this argument. *See* Examiner's Answer, p. 64. The Final Office Action, however, admits that *York* fails to provide disclosure of "decomposing an input datastream of a plurality of input datastreams, associating with each PDU a source identifier identifying the source of the input datastream." *See* Final Office Action, p.15. Appellants respectfully submit that they have paid due attention to *York* at page 11 of the Appeal Brief, stating:

> *York* is designed to purportedly transport one input datastream over a
> plurality of transmission links. In order to do so, *York* relies upon a preset
> ordering of transmitter queues that is transmitted to the receiver in order to
> facilitate reassembling the datastream. No identification of the transmitted
> packets is made or necessary. Instead, the reassembly is performed on a
> queue by queue basis (or transmit line by transmit line basis). *See York*
> 4:6-17, 4:35-41, 6:19-24. *York* does not contemplate multiple input
> datastreams, nor can *York* handle multiple input datastreams. In fact, were

one to put multiple input datastreams into the *York* device, the output at the receiving end would be a meaningless jumble because *York* provides no mechanism for identifying input datastreams.

Appellants respectfully submit that, when attention is paid to the teaching of *York*, the error in the rejection of the present Claims is made yet more apparent.

For at least these reasons, Appellants submit that independent Claims 1, 13, 24 and 30, as amended, and all claims depending therefrom are allowable over the combination of *York* with *Smith* and are not anticipated by *Smith*. Appellants therefore respectfully request the rejections to these claims be overturned and an indication of the allowability of same be issued.

CONCLUSION

For the above reasons, Appellant respectfully submits that the rejection of pending Claims 1-11, 13-22 and 24-37 is in error. Accordingly, Appellant respectfully requests that the Board reverse the rejections of these claims.

Respectfully submitted,

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CLAIMS APPENDIX

1.   (Previously Presented) A method for transporting information over a network comprising:

decomposing an input datastream of a plurality of input datastreams into a

plurality of sub-streams, wherein

said decomposing comprises placing a portion of the input datastream into

one of a plurality of queues,

forming the portion of the input datastream using one or more payload

data units (PDUs) each comprising a predetermined amount of

data,

forming each PDU by selecting the predetermined amount of data from

the input datastream,

appending to each PDU a source identifier identifying the source of the

input datastream, and

each queue of the plurality of queues corresponds to a corresponding

channel of a plurality of channels; and

communicating said sub-streams between a first network element and a second

network element of said network by transporting each one of said sub-

streams over the corresponding channel, wherein

a transmission rate of said input datastream is greater than a maximum

transmission rate of any one of said channels, and

said communicating comprises forming a data frame comprising one or

more PDUs and the appended source identifier for each PDU and

transmitting the data frame over the corresponding channel.

2.   (Original) The method of claim 1, wherein each of said channels is an optical channel.

3.   (Original) The method of claim 2, wherein each of said optical channels corresponds to a wavelength.

4.   (Previously Presented) The method of claim 1, wherein
said each one of said sub-streams has a transmission rate that is equal to or less
than a maximum transmission rate of a corresponding one of said
channels.

5.   (Previously Presented) The method of claim 1, further comprising:
assembling said sub-streams into a reconstructed output datastream.

6.   (Previously Presented) The method of claim 5, wherein said assembling
comprises:
placing a portion of each of said substreams in a queue, wherein said
reconstructed output datastream is output by said queue.

7.   (Previously Presented) The method of claim 5, further comprising:
performing protocol processing on said input datastream; and
performing protocol processing on said reconstructed output datastream, wherein
said protocol processing is performed using a protocol processor
comprising a protocol stack.

8.   (Previously Presented) The method of claim 1, further comprising:
performing compression on a one of said sub-streams, wherein
said one of said sub-streams has a transmission rate greater than a
maximum transmission rate of the corresponding channel.

9.   (Original) The method of claim 1, wherein said network is an existing
network.

10.   (Previously Presented) The method of claim 1, wherein
said network comprises an underlying network infrastructure, and
the method is performed without alteration of said underlying network
infrastructure.

11. (Original) The method of claim 10, wherein said network comprises a fiber-optic system.

12. Canceled

13. (Previously Presented) A method for receiving information transported over a network comprising:

receiving a plurality of sub-streams, wherein

said sub-streams are created by decomposing an input datastream of a

plurality of input datastreams into said sub-streams, wherein

said decomposing comprises placing a portion of the input

datastream into one of a plurality of queues,

forming the portion of the input datastream using one or more

payload data units (PDUs) each comprising a

predetermined amount of data,

forming each PDU by selecting the predetermined amount of data

from the input datastream,

appending to each PDU a source identifier identifying source of

the input datastream, and

each queue of the plurality of queues corresponds to a

corresponding channel of a plurality of channels, and

each of said sub-streams is transported over said network on the

corresponding channel, wherein

said transporting comprises forming a data frame comprising one

or more PDUs and the appended source identifier for each

PDU and transmitting the data frame over the

corresponding channel, and

a transmission rate of said input datastream is greater than a maximum

transmission rate of any one of said channels; and

assembling said sub-streams into a reconstructed output datastream.

14. (Original) The method of claim 13, wherein

each of said channels is an optical channel.

15.   (Original) The method of claim 14, wherein
each of said optical channels corresponds to a wavelength.

16.   (Previously Presented) The method of claim 13, wherein
said each one of said sub-streams has a transmission rate that is equal to or less
         than a maximum transmission rate of said corresponding one of said
         channels.

17.   (Original) The method of claim 13, wherein said assembling comprises:
placing a portion of each of said substreams in a queue, wherein said
         reconstructed datastream is output by said queue.

18.   (Previously Presented) The method of claim 13, further comprising:
decomposing said input datastream into said sub-streams; and
transporting said each of said sub-streams over said network on the corresponding
         channel.

19.   (Previously Presented) The method of claim 13, further comprising:
performing protocol processing on said input datastream; and
performing protocol processing on said reconstructed output datastream, wherein
         said protocol processing is performed using a protocol processor
              comprising a protocol stack.

20.   (Original) The method of claim 13, wherein said network is an existing
network.

21.   (Previously Presented) The method of claim 13, wherein
said network comprises an underlying network infrastructure, and
the method is performed without alteration of said underlying network
         infrastructure.

22.   (Original) The method of claim 21, wherein said network comprises a fiber-optic system.

23.   Canceled

24.   (Previously Presented) An apparatus for transporting information over a network comprising:

a first sub-stream management device, comprising

an input configured to receive an input datastream of a plurality of input datastreams, and

a plurality of outputs, wherein

each of said outputs is configured to output one of a plurality of sub-streams, wherein

the input datastream is decomposed to form the plurality of sub-streams, wherein

said decomposing comprises placing a portion of the input datastream into one of the plurality of queues,

forming the portion of the input datastream using one or more payload data units (PDUs) each comprising a predetermined amount of data,

forming each PDU by selecting the predetermined amount of data from the input datastream,

appending to each PDU a source identifier identifying the source of the input datastream, and

each of the plurality of queues corresponds to a corresponding channel of a plurality of channels,

each of said sub-streams is transported over said network on the corresponding channel, wherein

said transporting comprises forming a data frame

comprising one or more PDUs and the appended

source identifier for each PDU and transmitting the

data frame over the corresponding channel , and

a transmission rate of said input datastream is greater than a

maximum transmission rate of any one of said channels.

25.   (Original) The apparatus of claim 24, wherein

each of said channels is an optical channel.

26.   (Previously Presented) The apparatus of claim 25, wherein

each of said optical channels corresponds to a wavelength.

27.   (Previously Presented) The apparatus of claim 24, wherein

said each one of said sub-streams has a transmission rate that is equal to or less

        than a maximum transmission rate of said corresponding one of said

        channels.

28.   (Previously Presented) The apparatus of claim 24, further comprising

a second sub-stream management device, comprising

        an output configured to output a reconstructed output datastream, and

        a plurality of inputs, wherein

                each of said inputs is configured to receive one of said sub-

                streams; and

an underlying network infrastructure, communicatively coupled to said first and

        said second sub-stream management devices, and comprising said

        channels.

29.   (Previously Presented) The apparatus of claim 28, further comprising

a first protocol processor, coupled to said input;

a second protocol processor, coupled to said output; and

wherein,

the first and second protocol processors each comprise a protocol stack.

30.   (Previously Presented) An apparatus for transporting information over a network comprising:

a first sub-stream management device, comprising

an output configured to output a reconstructed output datastream, and

a plurality of inputs, wherein

each of said inputs is configured to receive one of a plurality of sub-streams,

said sub-streams are created by decomposing an input datastream of a plurality of input datastreams into said sub-streams, wherein

said decomposing comprises placing a portion of the input datastream into one of a plurality of queues,

forming the portion of the input datastream using one or more payload data units (PDUs) each comprising a predetermined amount of data,

forming each PDU by selecting the predetermined amount of data from the input datastream,

appending to each PDU a source identifier identifying the source of the input datastream, and

each queue of the plurality of queues corresponds to a corresponding channel of a plurality of channels,

each of said sub-streams is transported over said network on the corresponding channels, wherein

said transporting comprises forming a data frame comprising one or more PDUs and the appended source identifier for each PDU and transmitting the data frame over the corresponding channel, and

a transmission rate of said input datastream is greater than a maximum transmission rate of any one of said channels.

31. (Original) The apparatus of claim 30, wherein each of said channels is an optical channel.

32. (Previously Presented) The apparatus of claim 31, wherein each of said optical channels corresponds to a wavelength.

33. (Previously Presented) The apparatus of claim 30, wherein said each one of said sub-streams has a transmission rate that is equal to or less than a maximum transmission rate of said corresponding one of said channels.

34. (Previously Presented) The apparatus of claim 30, further comprising a second sub-stream management device, comprising

an input configured to receive said input datastream, and

a plurality of outputs, wherein

each of said outputs is configured to output one of said sub-streams; and

an underlying network infrastructure, communicatively coupled to said first and said second sub-stream management devices, and comprising said channels.

35. (Previously Presented) The apparatus of claim 34, further comprising a first protocol processor, coupled to said input;

a second protocol processor, coupled to said output; and

wherein,

the first and second protocol processors each comprise a protocol stack.

36. (Previously Presented) The method of Claim 1 wherein selecting the selected one of a plurality of channels comprises:

using a simple round-robin technique to choose an available one of the plurality of channels.

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37.   (Previously Presented) The apparatus of Claim 24 wherein selecting the selected one of the plurality of outputs comprises:

using a simple round-robin technique to choose an available one of the plurality of outputs.

EVIDENCE APPENDIX

None

RELATED PROCEEDINGS APPENDIX

None

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